

CLAIMS

What is claimed is:

1        1. A hard imaging method comprising:  
2            providing image data corresponding to a hard image to be formed;  
3            generating light responsive to the image data;  
4            scanning the light to form a latent image corresponding to the hard image  
5            to be formed;  
6            accessing correction data corresponding to scanning errors of a scan lens  
7            intermediate a rotating reflection device and a photoconductor; and  
8            modifying the image data using the correction data before the generating,  
9            the modifying comprising modifying to reduce the introduction of image errors  
10          resulting from the scanning using the scan lens.

1        2. The method of claim 1 further comprising rasterizing the image  
2          data from an initial format to raster image data, and wherein the modifying  
3          comprises modifying during the rasterizing.

1        3. The method of claim 1 wherein the scanning comprises scanning  
2          using an optical scanning system having the scanning errors comprising  
3          geometric distortion of the scan lens, and the accessing comprises accessing the  
4          correction data corresponding to the geometric distortion.

1        4. The method of claim 3 wherein the accessing comprises accessing  
2          the correction data configured to reduce the image errors resulting from the  
3          geometric distortion.

1        5. The method of claim 1 wherein scanning comprises scanning to  
2          form the latent image upon the photoconductor.

1        6. The method of claim 1 wherein the modifying comprises modifying  
2          using a raster image processor.

1        7. The method of claim 1 wherein the modifying comprises modifying  
2 the timing of the outputting of the image data to a light source configured to  
3 generate the light.

1        8. A hard imaging device fabrication method comprising:  
2            providing an optical scanning system of a hard imaging device configured  
3 to form hard images using media;  
4            determining geometric distortion of a scan lens of the optical scanning  
5 system, wherein the scan lens is configured to direct light from a rotating  
6 reflection device to a photoconductor;  
7            generating correction data configured to reduce image errors resulting  
8 from the geometric distortion of the scan lens of the optical scanning system;  
9            associating the correction data with the hard imaging device; and  
10          configuring processing circuitry of the hard imaging device to modify  
11 image data to be hard imaged, the modifying comprising modifying using the  
12 correction data.

1        9. The method of claim 8 wherein the providing comprises providing  
2 the optical scanning system of the hard imaging device comprising an  
3 electrophotographic printer.

1        10. The method of claim 8 wherein the configuring comprises  
2 configuring the processing circuitry to operate as a raster image processor to  
3 modify the image data.

1        11. The method of claim 8 wherein the generating comprises  
2 generating the correction data comprising an inverse representation of the  
3 geometric distortion.

1        12. The method of claim 8 wherein the configuring comprises  
2 configuring the processing circuitry to output the image data at variable  
3 moments in time to a light source configured to generate light to form images  
4 using the optical scanning system.

1       13. A hard imaging device comprising:  
2           an interface configured to access image data corresponding to images to  
3       be formed using a hard imaging device; and  
4           processing circuitry coupled with the interface and configured to access  
5       the image data, to access correction data corresponding to scanning error of an  
6       optical scanning system of the hard imaging device, to modify the image data  
7       according to the correction data to reduce image errors introduced during optical  
8       scanning of the image data using the optical scanning system.

1       14. The device of claim 13 wherein the processing circuitry operates  
2       as a raster image processor to modify the image data.

1       15. The device of claim 13 wherein the processing circuitry comprises  
2       raster image processing circuitry configured to convert the image data from an  
3       initial format to a raster format.

1       16. The device of claim 13 wherein the processing circuitry is  
2       configured to modify the image data using the correction data corresponding to  
3       a geometric distortion of a scan lens of the optical scanning system of the hard  
4       imaging device.

1       17. The device of claim 16 wherein the processing circuitry is  
2       configured to modify the image data using the correction data comprising an  
3       inverse representation of the geometric distortion.

1       18. A hard imaging device comprising:  
2           an optical scanning system configured to access image data to be used to  
3       form a hard image, to generate light corresponding to the image data, and to  
4       direct the generated light indicative of the image data to a photoconductor,  
5       wherein the optical scanning system produces images upon the photoconductor  
6       which differ from images of the generated light, the difference resulting from  
7       scanning errors in the optical scanning system; and

8 processing circuitry configured to modify the image data prior to  
9 application of the image data to the optical scanning system, wherein the  
10 modification of the image data comprises modifying the image data to control  
11 the generation of light within the optical scanning system in a manner to reduce  
12 the presence of image errors in a resultant image formed on the photoconductor  
13 and caused by the scanning errors of the optical scanning system.

1 19. The device of claim 18 wherein the processing circuitry is  
2 configured to modify the image data using correction data, and the correction  
3 data corresponds to the scanning errors comprising a geometric distortion of the  
4 optical scanning system.

1 20. The device of claim 19 wherein the correction data is configured to  
2 cause modification of the image data according to an inverse representation of  
3 the geometric distortion.

1 21. The device of claim 18 wherein the processing circuitry operates  
2 as a raster image processor to modify the image data.

1 22. The device of claim 18 wherein the processing circuitry comprises  
2 raster image processing circuitry configured to convert the image data from an  
3 initial format to a raster format.

1 23. The device of claim 18 wherein the optical scanning system  
2 comprises a system of the hard imaging device comprising an  
3 electrophotographic printer.

1 24. A hard imaging device optical scanning system comprising:  
2 light source means for outputting light according to image data to be hard  
3 imaged using a hard imaging device;  
4 reflection means for receiving the light from the light source means and  
5 for reflecting the light towards a photoconductor of the hard imaging device; and

6        optical scan means for receiving the light from the reflection means, for  
7        altering the light, and for providing the altered light to the photoconductor,  
8        wherein the optical scan means introduces image error during the altering; and  
9        wherein the image data comprises modified image data to reduce the image  
10      errors introduced by the optical scan means.

1        25. The system of claim 24 wherein the modified image data  
2        comprises image data modified according to an inverse representation of  
3        geometric distortion of the optical scan means.

1        26. The system of claim 24 further comprising processing means for  
2        applying the inverse representation to the image data before application of the  
3        image data to the light source means.

1        27. An article of manufacture comprising:  
2        processor-usuable media comprising programming configured to cause  
3        processing circuitry of a hard imaging device to:  
4            access image data corresponding to an initial image to be hard  
5        imaged using the hard imaging device;  
6            access correction data corresponding to image errors introduced by  
7        an optical scanning system of the hard imaging device and configured to emit  
8        light during hard imaging operations;  
9            modify the image data responsive to the correction data to improve  
10      the accuracy of a hard image formed by the optical scanning system responsive  
11      to the image data and with respect to the initial image; and  
12            output the modified image data to the optical scanning system of  
13      the hard imaging device.

1        28. The article of claim 27 wherein the programming causes the  
2        processing circuitry to access the correction data comprising correction data  
3        configured to reduce the image errors introduced by the optical scanning  
4        system.

1        29. The article of claim 27 wherein the programming causes the  
2 processing circuitry to access the correction data comprising correction data  
3 comprising an inverse representation of a geometric distortion of the optical  
4 scanning system.

1        30. The article of claim 27 wherein the programming causes the  
2 processing circuitry to operate as a raster image processor to modify the image  
3 data.